

REMARKS

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohta et al. (US 2001/0000439 A1) in view of Ohta et al. (US 6,417,906 A1), Jenkins et al. (US 6,437,596 B1), Kawano et al. (US 5,677,745), and Allen et al. (US 5,491,347), claims 6-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Baek et al. (US 6,524,876)(the Office Action erroneously refers to the reference as Ohta et al.) in view of Jenkins et al., Kawano et al., and Allen et al., claims 11-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeong et al. (US 6,486,494 B1) in view of Ohta et al. ('590), Jenkins et al., Kawano et al., and Song et al. (US 6,531,392 B2), and claims 16-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. (US 6,555,409 B2) in view of Ohta et al. ('590), Jenkins et al., Kawano et al., and Song et al.

Initially, Applicants respectfully note that Baek et al. (US 6,524,876 B1) was misidentified in the heading of the rejection of claims 6-10, and Ohta et al. (US 6,417,906 B2) is cited in the body of the rejection, but is not identified in the heading of the rejection of claims 6-10. Accordingly, if the above rejections are maintained, Applicants respectfully appropriate corrections to clarify the basis for each of the above rejections.

Furthermore, Applicants respectfully note that not all of the referenced cites in the above rejections were provided with the Office Action. In addition, not all of the cited references were listed on the PTO-892 provided with the Office Action. Accordingly, Applicants respectfully request that the next communication from the PTO include a PTO-892 listing the missing references.

Applicants respectfully traverse all rejections as being based upon combinations of references that neither teach nor suggest the novel combination of features recited in independent claims 1, 6, 11, and 16, and hence dependent claims 2-5, 7-10, 12-15, and 17-20.

Independent claims 1 and 6 both recite a drive line, pad line, and pad such that the pad line extends “from the drive line at a first angle from the first direction” and the pad extends “at the first angle and connected to the pad line.” Similarly, independent claims 11 and 16 both recite a plurality of drive lines, pads, and pad lines such that the pads extend “at a first acute angle from an edge of the substrate” and the pad lines extend “at the first angle.” At least these features of independent claims 1, 6, 11, and 16 are neither taught nor suggested by Ohta et al. (‘439), Ohta et al. (‘509), Ohta et al. (‘906), Jenkins et al., Kawano et al., Allen et al., Jeong et al., Kim et al., Baek et al. and/or Song et al., whether taken singly or combined.

The Office Action admits that none of Ohta et al. (‘439), Jeong et al., Baek et al., and Kim et al. disclose “the required pad structure, driving structure, angle structure and direction structure.” Thus, the Office Action relies upon Jenkins et al. for teaching “integrated circuits for testing a display area where the required driving structure is disclosed” and upon Kawano et al. for teaching an “LCD with electrostatic discharge projections where the required angle structure is disclosed.” As a result, the Office Action alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the required pad structure, driving structure, angle structure and direction structure “in order to have a liquid crystal display device with better performance.”

However, none of Ohta et al. ('439), Ohta et al. ('509), Ohta et al. ('906), Jenkins et al., Kawano et al., Allen et al., Jeong et al., Kim et al., Baek et al. and/or Song et al., whether taken singly or combined, teach or suggest providing a drive line, pad line, and pad such that the pad line extends "from the drive line at a first angle from the first direction" and the pad extends "at the first angle and connected to the pad line." Similarly, none of Ohta et al. ('439), Ohta et al. ('509), Ohta et al. ('906), Jenkins et al., Kawano et al., Allen et al., Jeong et al., Kim et al., Baek et al. and/or Song et al., whether taken singly or combined, teach or suggest providing "a plurality of pads extending at a first acute angle from an edge of the substrate" and "a plurality of pad lines extending at the first angle."

Instead, Applicants respectfully submit that Jenkins et al. discloses first portions of gate lines 16 within an array of cells 12 extending along a first direction and second portions of the gate lines 16 outside of the array of cells 12 extending along a second direction at an angle from the first direction. However, the probe pads 21 disclosed by Jenkins et al. extend along the first direction of the first portions of the gate lines 16. Similarly, Kawano et al. discloses scanning lines, scanning line inspection pads, scanning line connecting pads, storage capacitor lines, and capacitive line connecting/inspection pads all formed along a single direction. Similarly, Ohta et al. ('906) discloses video signal lines DL and check terminals TSTd each extending along a same direction.

Thus, Applicants respectfully assert that Jenkins et al., Kawano et al., and Ohta et al. ('906), whether taken singly or combined, fail to teach or suggest a drive line, pad line, and pad such that the pad line extends "from the drive line at a first angle from the first direction" and the pad extends "at the first angle and connected to the pad line," or "a plurality of pads extending at

a first acute angle from an edge of the substrate” and “a plurality of pad lines extending at the first angle.”

Moreover, Applicants respectfully assert that the Office Action’s alleged motivation to modify Ohta et al. (‘439), Baek et al., Jeong et al., or Kim et al. “in order to have a liquid crystal display device with better performance” is not taught or suggested in any of Ohta et al. (‘509), Ohta et al. (‘906), Jenkins et al., Kawano et al., Allen et al., and/or Song et al. Accordingly, Applicants respectfully note that MPEP 2143.01 instructs that “[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention, where there is some teaching, suggestion or motivation to do so found in either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.”

Moreover, MPEP 2143 instructs that “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless that prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).” Thus, Applicants assert that the Office Action has not provided any motivation for one of ordinary skill in the art to modify any of the teachings of Ohta et al. (‘439), Baek et al., Jeong et al., and/or Kim et al. with the teachings of any of Ohta et al. (‘509), Ohta et al. (‘906), Jenkins et al., Kawano et al., Allen et al., and/or Song et al. to achieve the invention of independent claims 1, 6, 11, and 16.

Since the Office Action fails to meet the requirements for establishing a *prima facie* case of obviousness as to independent claims 1, 6, 11, and 16, claims 1, 6, 11, and 16 are not obvious. Further, since claims 2-5, 7-10, 12-15, and 17-20 depend from claims 1, 6, 11, and 16,

respectively, and incorporate all the features of claims 1, 6, 11, and 16, claims 2-5, 7-10, 12-15, and 17-20 are not obvious at least for at least the above reasons for which independent claims 1, 6, 11, and 16 are not obvious. Thus, Applicants respectfully request that the rejections of claims 1-20 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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